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Scientific, Technical and Economic Committee for Fisheries (STECF)

Development of Protocols for Multi-annual Plan Impact Assessments

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SCIENTIFIC, TECHNICAL AND ECONOMIC COMMITTEE FOR FISHERIES (STECF)

DEVELOPMENT OF PROTOCOLS FOR MULTI-ANNUAL PLAN IMPACT ASSESSMENTS

EXECUTIVE SUMMARY

Initially presentations on biological and bio/economic modelling were made to give the technical background to aspects of modelling implied by an Impact Assessment. Experience with stakeholder involvement in the development of Multi-Annual Plans was also discussed. The meeting then developed a report framework to deliver the Commission's requirement. This report structure was designed to complement the Framework for Evaluations previously developed and extended under SG-MOS 090-02 in Lisbon in November.

To test the suitability of the Framework and to determine how to carry out the necessary supporting work four requests, on Celtic Sea herring, Bay of Biscay sole, Haddock to the west of Scotland and Western Waters Access Regime, were briefly examined for scope and approach. Based on the experience gained from these and the general experience of other plans a generic timetable and Terms of Reference were developed.

In order to satisfy the need for impact assessment and simultaneously include stakeholder involvement the Study Group recommends a generic approach which includes four steps :-

- Preparatory phase
- Scoping meeting
- Work to be carried out prior to the Impact Assessment meeting.
- Impact Assessment report preparation meeting.

The two meetings for which detailed generic ToR were developed are:-

- A scoping meeting where all the details of the approach are established. Without this detail it is unlikely that a single meeting will achieve adequate results. One of the important functions of the scoping meeting is to select a suitable approach for each Impact Assessment reconciling the required timetable and the resources available. It is recommended that stakeholders are involved with the scoping meeting formally as observers but with the aim of helping to define a limited number of harvest rules to be tested.
- An Impact Assessment meeting open to stakeholders as observers but with one day specifically allocated to presentation and discussion of results. The objective of the meeting is to evaluate the working documents prepared following the scoping meeting discuss this with those involved and assemble a report to support the Commission's Impact Assessment.
-

It is strongly recommended that the approach should involve only one combined process dealt with either by STECF alone or by combined STECF/ICES group but not two parallel half linked strands by ICES and STECF. The generic approach proposed is developed from the discussions at workshop on management strategies WKMOSE (Copenhagen January 2009), adapted to a single cycle. The original approach suggested a second cycle of scoping work and report preparation, however this is regarded as too great a workload for available resources. There are some risks with this higher speed approach that problems will be encountered during the work, not anticipated in the scoping meeting. Success will depend on effective scoping of the issues.

SCIENTIFIC, TECHNICAL AND ECONOMIC COMMITTEE FOR FISHERIES (STECF)

DEVELOPMENT OF PROTOCOLS FOR MULTI-ANNUAL PLAN IMPACT ASSESSMENTS

This report represents the STECF view on the development of a protocol for Impact Assessments of multi-annual management plans and is based on the meeting of SG-MOS 10-01 February 1 – 5, 2010 in Hamburg. STECF reviewed the report of the subgroup and provides the following report with only minor changes from the work of the subgroup.

1. INTRODUCTION

The STECF was requested to provide a generic procedure for the preparation of Impact Assessments to support the Commissions policy on Multi-Annual plans. Included within this process is the need to consult with stakeholders. SG-MOS 10-01 was given the following Terms of Reference.

TERMS OF REFERENCE

The STECF (SG-MOS 10-01) is requested to

Consider the European Commission requirements for impact assessment and then taking into account these requirements:-

1. Develop the draft proposed terms of reference provided by the Commission create a template for ToR for impact assessment for future multi-annual plans considering in particular proposals for Bay of Biscay sole, Rockall haddock, Celtic Sea herring and effort control for deepwater fisheries.

2. Consider how stakeholders opinion could be integrated in the impact assessment process and/or final STECF report. STECF should indicate how this can be carried out in a way that is compatible with its formal role for the Commission;

   As stakeholders opinion is a crucial step in impact assessment, according to Commission legislative requirements, DG Mare proposes working on two steps:

   a) STECF prepares a first draft impact assessment, Commission organises a stakeholders consultation with RAC and other stakeholders, 2 STECF members at least will be invited and present their work;

   b) STECF integrates the comments made and review if necessary its report;

3. Using as examples several of Impact Assessments that are to be required in the near future, consider the requirements for these and propose a Framework (conceptually similar to the one for Evaluations) for carrying out impact assessments. Include where appropriate recommended methodology. Identify any needs for development (of models) and for data and associated data calls;

4. Provide estimates of STECF resource requirements to fulfil its tasks for Impact Assessments in terms of staff and technical development.

STECF acknowledges the extensive contribution made by the following participants in preparing this report, **Participants SG-MOS 10-01 meeting in Hamburg Germany 1-5 February 2010:**

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2. APPROACH TO THE PROBLEM

Initially presentations on biological and bio/economic modelling were made to give the technical background to aspects of modelling implied by an Impact Assessment. The meeting then developed a report framework to conform to the Commission's requirements for Impact Assessments (Appendix I). This was coordinated with the Framework for Evaluations (Appendix II, STECF 2009) and the draft Terms of Reference (Appendix III). Experience with stakeholder involvement in the development of Multi-Annual Plans was also discussed.

To test the suitability of the Framework and to determine how to carry out the necessary supporting work four requests (Appendices IV to VII) were briefly examined for scope and approach. Based on the experience with these and the general experience of other plans (ICES 2008, ICES 2009) a generic timetable and Terms of Reference were developed.

3. EXAMINATION OF EXAMPLE REQUESTS

Four requests were examined for scope and approach, assuming a single generic approach. Where parts of these requests were directed at ICES this was included in order to scope the complete request.

3.1. Haddock VI and Vb

The study group examined the draft request (Appendix IV) and checked it against the general framework of IA to draw conclusions on the procedure, data and resource requirements, etc. to perform an IA.

Objectives

Within the plan no specific objectives are included (biological, economic or social). Therefore, the IA has to be assessed against the basic objectives: management conforming with the precautionary approach and achievement of MSY.

As instruments to achieve those objectives the following HCRs are described in the plan:

- *F target of 0.3 and SSB > 30,000 tonnes*
- *15% bounds on TAC*
- *Bpa >SSB > Blim then F set to 0.3-0.2*(Bpa-SSB)/(Bpa-Blim)*
- *Blim >SSB then F set to 0.1*

Data Requirements

In the process of assessing the plan the following biological/ecological data are necessary and/or available.

- *Fishery data (catch, landings, effort)*
- *Fishery independent data*
    - *VIa haddock – 2 research surveys*
    - *Vb haddock – 2 research surveys*
    - *VIb haddock – 1+ research survey*
- *Ecosystem data*
    - *M2 (predation, seals)*
    - *Bycatch of target and non-target species*
    - *Environment – information's on influences of the fishery on habitats, bird- or marine mammal species.*

For the economic data it was unclear if the DCF data is sufficient to assess the plan. Therefore, during the scoping meeting it has to be examined if the aggregation level of the DCF data allows an assessment of the economic and social impacts. Additionally other data sets and background information's are necessary:

- *DCF data (effort and economic)*
- *Regional Employment Stats*
- *Market prices*
    - *EU and world market statistics*
- *Market development*

Main difficulties

The group identified the following main issues for the IA:

Biological

- *Operating Model (OM) considerations*
    - *Stock identity (eg. VIa and North Sea)*
    - *Fleet behaviour*
    - *EU and International Waters*
    - *Closed areas (Rockall, cod, SCC scheme, eff man. line)*
- *Management Procedure (MP) considerations*
    - *Mix of effort and TAC management*

  - *Stock assessment method – TSA*
  - *Discard estimation and discard practices*
- *Other*
  - *Enforcement and control effectiveness (implementation)*
  - *Cod Management Plan*

Economic

- *Catch composition (fleet dependency)*
  - *Fleet response to management measures*
- *Cod management plan*
- *Effort / TAC – model availability (EIAA)*
- *Influence of effort restrictions*
- *Enforcement and control costs*

Resources

In case of necessary resources it seems that there should be principally no problem to find experts for this fishery to do the IA. During the scoping meeting it has to be clarified if a bio-economic model is available. There seems to be a stock assessment model for the haddock stocks but so far no bio-economic one. The answers for these basic questions will define the timeline for the whole process (scoping, preparatory work, IA etc.). More experts mean more necessary organisational effort.

3.2. Bay of Biscay Sole

The study group examined the draft request (Appendix V) and checked it against the general framework of IA to draw conclusions on the procedure, data and resource requirements, etc. to perform an IA.

Data requirements

To answer the request in a detailed way a large variety of data is needed:

- *Assessment data (catch at age + discard at age by fleets maybe not available from ICES but from member states)*
- *Data on ecosystem impact (e.g., bycatch, sea bed degradation)*

- *Economic data by fleets (gross revenue, fixed costs, variable costs, capacity, catch composition). The standard DCF segments are normally too aggregated. Therefore, an additional data call with a higher disaggregation level for a selection of sub-fleets catching sole is needed.*

- *Market description (at least ex-vessel price-quantity relation)*

- *Fleet behaviour (e.g., effort distribution). RAC members could provide useful information.*

- *Employment and labour conditions (fishing sector but also processing industry, salaries)*

Problems encountered

Several potential problems have been encountered:

- *In general it is difficult to model mixed effects of TAC rules and effects of capacity ceilings and control measures (option 2 and 3). During the scoping meeting assumptions on how to parameterize the simulation models have to be checked and decided. In addition, there are imprecise formulations in the request (e.g., Option 3 – more thorough revision of the plan; setting a long-term fishing mortality target (Fmsy), while adjusting capacity ceilings as required and revising a control part). It becomes also not obvious what should happen to capacity ceilings in options 4 to 6.*

- *There are no recent discard data and there is insufficient period of scientific survey. This has a negative influence on the uncertainty of recruitment estimates and the assessment as a whole.*

- *Lack of social data to assess impact*

- *Lack of market description. A description of impact along the market chain will be difficult*

- *Technical interactions with other fisheries and management plans (e.g., hake, nephrops) create potential side effects on the fishery that have to be taken into account.*

Resources:

Manpower:

1 stock expert

1 expert to model the biology

1 expert to model the economy

Experts for economic aspects

Experts for effect on the ecosystem (Benthic organisms, Sea birds)

Experts with background information on the main fleets (RACs)

Experts to review the evaluations

Experts for social aspects

Model:

If available a bio-economic model should be run that serves the criteria identified in ICES study group on management strategies (ICES 2008). i.e. a full Management Strategy Evaluation (MSE) loop should be simulated.

3.3. Celtic Sea Herring

The study group examined the draft request (Appendix VI) and checked it against the general framework of IA to draw conclusions on the procedure, data and resource requirements, etc. to perform an IA.

Participation

Only one national fleet is involved substantively in this fishery, Examination of ICES reported catches suggests that only Ireland participated in the fishery other counties area misreported. This implies that consultation needs really only to deal with one national fishery though others could be involved. The evaluation requires Irish experts in herring (Celtic Sea) simulation (From Marine Inst?) and economist with knowledge of the fishery (BIM?)

Objectives

One objective is clear but really only one option is being requested and considered to meet the MSY objective. If an impact assessment is required to give more options these need to be specified.

The National fisheries management arrangements put in place by Ireland are not specified explicitly or referenced – these should be provided.

Fmsy selected as F0.1 – there is some doubt if this should be 0.19 or 0.17.

Industry aims need to be defined. Currently no industry options are listed, options with a low % inter-annual change might be specified.

Information / data required

ICES data is required for biological simulation – this is available in Ireland or from ICES. Preliminary examination indicates that the Stock/Recruit model seems well founded and can deliver a reasonably robust population model.

Economic data from DCF may be sufficient for the herring fishery as the relavant fleet segment does not seem to catch herring elsewhere.

Data on economic activity of the same fleet for rest of the year is required

Is fleet segmentation sufficient to extract fleet information?

Main pieces of work implied

Simple single stock evaluation of clean fishery. Error in the assessment may be important – assessment failed 3-4 years ago. Blim is set to Bloss and appears too low. But FMSY = F0.1 0.17 implies equilibrium biomass well above observed biomasses at approximately 150,000 t and F well below historic F – There may be a slightly higher F (.2-.25?) compatible with equilibrium SSB at ~ 100,000 t and Blim at ~ 50-60 k t. This might deliver higher Fmsy.

Main issues difficult to answer

Fishery selection needs checking as fleet and market are changing

Precision of assessment has been poor in recent years (partly due low catches?)

What to do if assessment fails as it has recently

Will changers in size of fish envisaged by F=0.17 from F=0.5 be important?

Resources tools, personnel

Ideally the use of FLR to characterize assessment error as this framework is already used for the assessment. Simulation of only one survey required as FLR used for the assessment. Then HCM or FPress to give results more quickly 2-3 weeks for scoping simulations and delivery of TAC set to Economists

Economic analysis for a TAC based fishery can possibly be done with EIAA

3.4. Western waters access/effort regime

The study group examined the draft request (Appendix VII) and checked it against the general framework of IA to draw conclusions on the procedure, data and resource requirements, etc. to perform an IA.

This request would be difficult to respond to as there is no stated objective against which to evaluate either effectiveness or other alternatives. This brings out the point made in the generic procedure that a clear overall objective or objectives are require before any measure can be evaluated in terms of an Impact Assessment.

4. STAKE HOLDER INVOLVEMENT

STECF is requested to consider how stakeholders opinion could be integrated in the impact assessment process and/or final STECF report. STECF should indicate how this can be carried out in a way that is compatible with its formal role for the Commission;

> As stakeholders opinion is a crucial step in impact assessment, according to Commission legislative requirements, DG Mare proposes working on two steps:
>
> a) STECF prepares a first draft impact assessment, Commission organises a stakeholders consultation with RAC and other stakeholders, 2 STECF members at least will be invited and present their work;
>
> b) STECF integrates the comments made and review if necessary its report.

SGMOS based its discussion of stakeholder involvement on experiences obtained in previous work on developing multiannual management plans within STECF, ICES and the RACs. It was generally agreed that active involvement of all stakeholders (managers, administrators, scientists, fishers, processers and NGOs) in the entire process from defining the scope to finalising the assessment reports is to be preferred.

An active dialog with stakeholders can provide an important input to the selection of options and scenarios to be evaluated and to the discussion of the results of the evaluations. SGMOS therefore considers that the best way to integrate stakeholders opinions in the impact assessment process would be by active involvement of stakeholders throughout the scoping meetings. For the impact assessment meetings these should be open to observers throughout the meeting. To ensure stakeholders views are fully represented one day should be specifically set aside for discussion of results (for example day 3 of 5). This approach is included in the suggested generic approach given in Annex B.

The two step approach proposed by the Commission (see ToR) will provide stakeholders with an opportunity to comment on the impact assessment and have their comments reflected in the report. The approach, however, means that the stakeholders will be involved late in the impact assessment process and will make it difficult to incorporate stakeholder's views in the options and scenarios to be evaluated unless the consultation referred to in ToR a) above resulted in options being re-evaluated, extending the duration of the consultation and the workload.

5. RESOURCE IMPLICATIONS FOR IMPACT ASSESSMENTS AND EVALUATIONS IN 2010

A table of Impact assessments and Evaluations expected in 2010 is given in Table 1. A time line of the various actions for these activities is given in Table 2. A plan to deal with these is to be finalised in February.

Table 1 Impact Assessments and Evaluations expected in 2010 A plan to deal with these is to be finalised in February.

Proposal	Unit	IA required (plenary)	Scoping meeting	SGMOS meeting	Remark
Proposal for a Regulation of the European Parliament and of the Council establishing a multiannual plan for the stock of **herring in the Celtic Sea.**	MARE.C.2	Apr-10	work under development	***ad hoc contract***	
IA on multiannual plan for **sole and plaice in the North Sea**	MARE.E.2	Nov-10	work under development	oct 2010	MRAG report available in July, to be validated im November
IA on multiannual plan for **sole in the Bay of Biscay** .	MARE.C.2	Nov-10		oct 2010	data call required
IA on multiannual plan for the **stocks of southern hake and Norway lobster** in the Cantabrian Sea and Western Iberian Peninsula	MARE.C.2	01.04.2010 Can it be postponed to November?		?? Earlier posible is October 2010	Anglerfish may be included. The current lack of data could be a major problem and could lead to postponing the STECf work on impact assessment. This would furthermore allow to group works on southern waters.
Evaluation of the multiannual plan for **cod in the Baltic Sea**	MARE.E.2	Nov-10		SGMOS october, or stock review in June	
IA on revision of multiannual plan for the **cod stocks in the Baltic Sea** and the fisheries exploiting those stocks.	MARE.E.2	Apr-11	*early 2011 ?*		depends on the conclusion of evaluation
IA on multiannual plan for **sole in the Western Channel**	MARE.C.2	last quarter 2010 (depend on scientific advice)			awaiting ICES advice
IA on a multiannual plan for the stock of **haddock** distributed in **EC waters of ICES zones Vb and VIa (West of Scotland and North of Ireland).**	MARE.C.2	April 2010 or November 2010	ad hoc contract??		awaiting ICES advice
IA on specific access requirements and associated conditions for fishing for **deep-sea stocks**.	MARE.C.2	Apr 2010?	dealt with by another group than SGMOS		*STECF 2009 (awaiting working group report)*
IA on revision of the **fishing effort regime in Western waters**	MARE.C.2	April 2010 or July 2010 depending on need to integrate both regimes into one	Objectives and need for IA should be clarified.		

Table 2 Preliminary Timetable (by week) to carry out Impact Assessments and Evaluations.

		weeks	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43
step	step	(minimum)																																											
Evaluation	sent the request for evaluation to STECF	0																																												
	data call	4		Data call																																										
	STECF (1 week meeting + 3 to 8 w preparation of work)	4				STECF WG																																							
	draft STECF report	2					report																																						
	approval of evaluation report (4 to	12							STECF plenary																																					
Elaboration of options	Commission	4							preparation of options																																					
	Stakeholders (1 to 8): after the approval of report by the plenary	1									RAC meeting																																		
Impact assessment	sent the request for evaluation to STECF																																											
	data call	4																																										
	Scoping meeting - RAC	4														Scoping																													
	Scoping meeting - STECF	1										preparation				Mtg																													
	STECF work on IA	4																																											
	STECF WG	1																																											
	draft STECF report	2																				report																						
	approval of IA report (4 to 20 weeks)	4																							STECF plenary																					
	RAC consultation on impact assessment (final)																																											
Preparing proposal																																												
	IAB (earlier possible date)																																											
Stakeholders involvment						RAC																																						
	Evaluation: Participation to STECF WG																																											
	Options . Commission in RAC meeting										RAC mg																																	
	Impact assessment: participation in STECF scoping + WG																				?																								
	Impact assessment (final)																																											

5.1. Bio-economic Models for Impact Assessments

Economic models

Recent evaluations of long-term management plans have used the EIAA model to assess the outcome of the plans in economic terms. Similarly the EIAA model was used during the impact assessment of the Northern Hake long-term management plan and also for the North Sea flatfish management plan. In each of these instances the economic model has been run separately from the biological simulation model that was used to generate the SSB and TACs. Because of this separation in practice it was not possibility to include any interaction, or feedback, between the biological and the economic components of the system being modelled (Though this could be done year by year by hand).

A recent review of existing bio-economic models for fisheries within the EU (Prellezo, 2009) has described a number of current approaches including EIAA, TEMAS, MOSES, BEMMFISH, BIRDMOD (including Aladym), MEFISTO, AHF, EMMFID, SRRMCF, COBAS, ECOCORP, ECONMULT and FLR (EFIMAS). The review describes the main characteristics of each model, in terms of the objectives for which they were created, the advice they provide, the software used, the data requirements and the main limitations that they face.

Existing tools for impact assessment often concentrate either on the biological or the economic aspects of the fishery system. Few, if any, address the two disciplines in equal measure. Moreover, the approaches used in the development of these biological and economic models can be incongruous. Biological models are typically age, or length, structured whilst their bio-economic counterparts typically use production models and are biomass based. Biomass dynamic models cannot account for the evolving age structure of a population as it either increases or declines leading to potential bias in the predicted economic performance of the fleets.

Ideally the existing biological and economic models should be combined. Both BIRDMOD and AHF have been implemented in R. In addition AHF, and some components of the EIAA model, have been incorporated into the FLR package FLRDynState. However, the current status and availability of this package are not clear. Elements of TEMAS have also been implemented in FLR through Fcube.

There is an immediate need to identify which models can be used appropriately for Impact assessments and how to couple biological and economic modelling into an integrated structure. This should taken forward by the STECF and the Commission, to produce at least one integrated model suitable for Impact assessments.

Currently for Impact Assessments it is possible to use the EIAA model for 3-5year projections for those stock STECF deals with annually in this way. This model may generally be used either in its TAC or combined TAC/effort form unless something more suitable is available.

Mixed fisheries exploitation models.

There is a long standing need to provide on fisheries advice, to do this we need to address the mixed species nature of fisheries, specifically demersal trawl fisheries.

Development of tools to allow impact assessments for these types of fisheries is the next step forward.

Multi-species models

Recent impact assessments of management plans use single species models as operating model in MSE loops that simulate the dynamic of single stocks. However, within the Eco-system approach to Fisheries simulation of stocks should also take ecosystem effects, multispecies interactions into account. Future research incentives to allow for the incorporation of multi-species or ecosystem models in MSE simulations could be beneficial. More detailed tests of the robustness of management strategies against environmental changes could be achieved. It will also enable tests on the impact of management strategies (i.e. predator recovery plans) on other stocks.

5.2. Social Impact Assessments

Further work will be required to identify appropriate social indicators and methodology.

6. CONCLUSIONS OF SG-MOS 10-01

In order to satisfy the need for impact assessment and simultaneously include stakeholder involvement the SGMOS Study Group recommends the generic approach given in Annex B which includes two Terms of Reference for a scoping meeting and a report meeting. The approach involves an extensive scoping meeting where all the details of the approach are established. Without this detail it is unlikely that a single report meeting will achieve adequate results. One of the important functions of the scoping meeting is to select a suitable approach for each Impact Assessment reconciling the required timetable and the resources available.

It is recommended that stakeholders are involved with the scoping meeting formally as observers but with the aim of helping to define a limited number of rules to be tested. For the Impact Assessment meeting this should be open to stakeholders as observers but with one day allocated to presentation and discussion of results.

For preparation of the report a Framework is provided in Annex A. It is strongly recommended that the approach should involve only one combined process dealt with either by STECF alone or by combined STECF/ICES group. The generic approach proposed is developed from the discussions at WKEMOS in January 2009 (ICES 2009), adapted to a single cycle. It is considered inappropriate to try to conduct all of this work at one meeting, rather to scope the work, carry out evaluations off line and hold a meeting to assemble the results and prepare a document specifically designed to support an Impact Assessment. There are some risks that problems will be encountered during the work, not anticipated in the scoping meeting. Success will depend on effective scoping of the issues.

7. ACKNOWLEDGEMENTS

The study group would like to thank the Institute of Sea Fisheries, Hamburg, Germany for hosting the meeting.

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ICES 2008. Report of the Study Group on Management Strategies ICES CM 2008/ACOM:24 74pp

ICES 2009. Report of the ICES-STECF Workshop on Fishery Management Plan Development and Evaluation (WKOMSE) ICES CM 2009/ACOM:27 36pp

ANNEX A GENERIC APPROACH AND TERMS OF REFERENCE FOR IMPACT ASSESSMENT MEETINGS

1. OBJECTIVES

The process aims at assessing social and economic, fishery and environmental impacts of the various options and scenarios for a future multi-annual plan.

The impact assessment will answer the following questions:

- Are the options consistent with the objectives of the CFP
- What are the likely economic, social and environmental impacts and the potential (dis)advantages, synergies and trade-offs of those options?
- How do the main options compare in terms of effectiveness, efficiency and coherence in solving the problems?
- Are the objectives proposed appropriate at ensuring sustainable management (2015 MSY objective – 2020 for the good environmental status of marine ecosystems)
- How could future monitoring and evaluation be organised?

The approach chosen involves the following steps

- Preparatory phase
- Scoping meeting
- Work to be carried out prior to the Impact Assessment meeting.
- Impact Assessment report preparation meeting.

2. ACTIONS TO BE CARRIED OUT IN THE PREPARATORY PHASE

2.1. Initial activities for DGMARE

Statement of the problem (stocks, fisheries and areas to be assessed)

Timetable of the administrative requirements

Provision of the results of any evaluation already carried out

2.2. STECF Bureau in consultation with DGMARE

Appoint chair to oversee the whole process.

Identify who needs to attend scoping meeting: Fisheries Scientists / Economists / Sociologists, Commission, Policy Makers, Policy Managers (MS),Stakeholders (RACs),

Timetable scoping meeting (with sufficient notice to ensure stakeholders and scientists can be identified and can carry out necessary preparation.) This aspects will be discussed at the Commission/RACs meeting 9-10 March.

Stakeholders should be actively involved throughout the scoping meetings. The impact assessment meetings should be open to observers throughout the meeting. To ensure stakeholders views are fully represented one day should be specifically set aside for discussion of results (for example day 3 of 5).

2.3. Role of the chair of the process

Identify and arrange participation of key people.

Obtain Background Information

- The legislative framework (DG Mare)
- The current management system at community and MS level (DGMare MS Managers / Experts)
- Conclusions of the Evaluation (if appropriate) (DG Mare and/or STECF)
- Objectives of the multi-annual plan (DG Mare)
- Information on the fishery, metier and fleets (DGMare /Experts)
- Stocks description including basic diagnostics (Scientists)

Before Scoping meeting oversee limited preparation of biological model diagnostics and a selection of a range of plausible economic / sociological modelling options.

3. TERMS OF REFERENCE FOR THE SCOPING MEETING

The objective of this meeting is to determine the workload required and to reconcile this with available resources, to arrive at an effective detailed plan of what is needed to carry out the technical work that will underpin the required Impact Assessment.

The scoping group must ensure that

- The objectives of management are clear
- Idea of resources that should be committed are appropriate for the work
- Clear tactical options and scenarios are selected

Define Starting point for options and scenarios

(a) To define the starting situation: the starting situation is the social and economic situation observed at the end of the evaluation period, it should be defined during the evaluation process.
If not, define the economic and social starting situation for the fishing fleets, onshore industries and communities that depend on the fishery concerned and of associated fisheries (e.g. size, turnover, costs, profits, employment for last three years) for each Member State and fishery affected.

(b) State of the stock(s) at the beginning of the period.

(c) Define the ‘no change’ management regime that would be followed such that biological, economic and social consequences can be estimated over the impact assessment period.

Select a number of tactical options to be evaluated.

Select a number of plausible biological and economic scenarios against which the tactical options are tested in order to characterise the robustness of the different tactical options to external factors.

Identify basic methodology to be used.

Decide on the models to be used and define how they are to be parameterized, with stock dynamics, estimation and implementation components. Simulation methodology and criteria for stock modelling should follow ICES – SGMAS 2008 section 5. Integrated economic and biological models are an important tool for impact assessments and the scoping meeting should consider the availability and requirements for integrated modelling. (see also SGMOS 10-03 WG to be held in Rennes dealing with the ecosystem approach to fisheries management)

Define the criteria (indicators and performance measures) to be retained and presented for all scenarios and options to allow comparison of scenarios and options. It is important to identify which indicators are appropriate for the specific cases being assessed as it is unlikely that all of these will be available or appropriate in all cases. Once economic criteria for evaluation are selected, the appropriate methodology and data should be specified.

Check that biological reference points are compatible with Stock/Recruit dynamics and reconcile if necessary.

Identify specific data that required and timescale for acquisition including any data call required.

(d) Data shall primarily be sourced from the Data Collection Framework from databases in JRC, although additional information should be sourced where necessary.

Define how the simulation work will be checked/verified.

Identify who will do what on what timescale and under what conditions and define how the chair will monitor progress between the meetings

Agree work timetable and dates for Impact Assessment meeting.

Prepare a report detailing the agreed data requirement, modelling approach and parameterisation and made available no later than 15 days after the scoping meeting. The report should be prepared to document the calculation procedures that will be employed to give the parameters in the modelling and the range of conditions under which the plan has been evaluated. See standards in SGMAS 2008

4. WORK TO BE CARRIED OUT TO SUPPORT THE IMPACT ASSESSMENT

Between the scoping meeting and the impact assessment meeting work will be completed on all options and scenario required to be presented at the Assessment meeting. This process will be monitored by the chair.

Participants will prepare a working document on the simulations to be made available at least 15 days prior to the Impact Assessment meeting.

5. TERMS OF REFERENCE FOR IMPACT ASSESSMENT MEETING

The objective of the meeting is to evaluate the working documents, discuss results with stakeholders and assemble a report to support the Impact Assessment.

(1) Assess the options of multi-annual management defined at the scoping meeting (including a 'No Change' option).

   (a) Under the long term proposal, for each Member State, the analysis shall look into what economic, social, fishery and environmental impacts can be expected in the short, medium and long run.

   (b) Prepare a table showing the results of the selected options using criteria defined in the scoping meeting.

   (c) Create a short list of options that will reach the objectives set by the Commission.

   (d) Provide to SGRN information on data required, for Evaluation and future Impact Assessments, for the options in the short list, currently not available under the DCF.

   (e) Identify potential economic and social spillover effects on the other fisheries sectors (processing, marketing) or other capture fisheries.

(2) Assemble a report to support the Impact Assessment following the Framework in Annex B.

ANNEX B FRAMEWORK FOR IMPACT ASSESSMENTS REPORT

The following layout describes the minimum aspects to be considered in preparing an Impact Assessment. In addition the meeting should consult the Table in Appendix I which details a more complete list of relevant questions for impact assessments, where appropriate additional aspects should be added.

1. PROBLEM STATEMENT

The Commission should provide scope and limits of problem to be addressed

Why there is a need to react and where appropriate link this to background studies or information.

2. DEFINE OBJECTIVES : GENERAL / SPECIFIC / OPERATIONAL

General objective: will be CFP (statement provided by the Commission)

Specific objective: what the objectives are in terms of changes and expectations of outcomes with timescales (for example achieving exploitation target in X years)

3. IDENTIFY TACTICAL METHODS

Describe the operational objectives (which may be option dependent)

Effort changes / or Capacity / or TACs with interannual stability criteria.

Select the different approaches that are to be considered.

These should be predefined by Commission and limited to a specified range confirmed at the scoping meeting.

4. OVERRIDING CONSIDERATIONS OF THE OPTIONS

Identify if there are significant parts of the any options that are unlikely contribute to the overall objectives

Identify if in the opinion of the evaluators the options are likely to be able to deliver the objectives of the plan.

5. ENVIRONMENTAL EFFECTS OF THE OPTIONS

5.1. Evaluation of the effects of the multi-annual plan options on the fishery

Show what is expected to be the resulting impact on landings and the fleet of any of the following aspects that are affected by the plan options:-

• Catch and effort limitations – either through TAC or effort management expected to result from the different options.

• Technical measures – eg. Closed areas, gear restrictions, etc. that are included in the options.

• Control and enforcement measures proposed – eg. Entry and exit rules, allocation rights, etc. and any exemptions,

• Capacity management measures that are included in the options,

What is the expected fishery response to the different options? The response strategies of the fleets include possible shifts to other stocks or species, to other gears or métiers, changes in discard and slippage and other behavioural issues.

5.2. Evaluation of the effects of the options on the stock

This section should be adapted to any particular plan and stock.

a) Evaluating the stock response to the changes in the fisheries resulting from the plan - will the options deliver their own internal objectives with respect to the stock?

b) Evaluating whether the values of target and other reference points referred to in the plan are consistent with current knowledge and the objective of achieving MSY by 2015.

• Are the reference points in the plan appropriate given the current information on stock status and dynamics?

• Are the options likely to achieve F_{MSY} by 2015? If not, why? (see note 1)

• Are the options likely to be considered precautionary. If not, why? (see note 2)

• Is there a need to propose all the measures in the plan to make it capable of achieving the objectives? If so is STECF able to propose simpler options for a better plan to achieve stock – specific objectives?

5.3. Evaluation of the effects of the multi-annual plan on the ecosystem.

• What impacts of the different options plan on the ecosystem can be identified? Ecosystem impacts might include changes in discarding practices, by-catch rates, and catch of non-target species, habitat degradation, etc.

• What will be the effect on agreed indicators or descriptors that are directly (and where possible indirectly) affected by the options.

6. SOCIAL AND ECONOMIC EFFECTS OF THE PLAN

6.1. Data and Calculation of Indicators

• If there is no explicit socio-economic objectives defined by the multi-annual plan the options should be measured against the general socio-economic objectives as stated in the CFP.

• Will the explicit socio-economic objective defined by the multi-annual plan be met by the different options.

• The social and economic state of the fleets exploiting the stock or stocks concerned can be assessed using appropriate indicators, i.e. those proposed in the plan or those given below which include those proposed by STECF in the April 2009 plenary report.

Yearly economic indicators

- *Value of landings* ~ revenue from sale of fish.

- *Market price* ~ ex-vessel price and where possible price along the chain.

- *Gross Cash flow* ~ income minus all operational costs (excluding capital costs).

- *Break even revenue* ~ long term break even revenue. The income (revenue) level at which economic profit is zero.

- *Gross Profit* ~ income minus all costs, including capital costs.

- *Gross Value added* ~ contribution to gross national product (GNP). Income minus all expenses except capital costs and crew cost.

- *Fleet size and composition and value*

- *Return to be shared* - (share of owner (incl. vessel) and crew after paying the running costs) Turnover - landings costs – fuel costs – food costs – bait costs – ice costs (can be calculated from DCF data)

It is important to identify which indicators are appropriate for the specific cases being assessed as it is unlikely that all of these will be available or appropriate in all cases. The scoping meeting should identify specify economic criteria to allow a comparison between different plans. Once economic criteria for evaluation are selected, the appropriate methodology and data should be specified. The scoping meeting should identify additional data and models that might be required to evaluate the effects of the plan.

Longer term economic indicators over the period of the impact assessment should be obtained from cost benefit analysis.

- Net present value

Social indicators

- *Employment (and in other fishery sectors)*

- *Salary ~ if data is available (in the future)to compare with other sectors (job market)*

7. COST EFFECTIVENESS OF CONTROL AND ENFORCEMENT

Do the different options have important differences in implementation costs against there effectiveness in delivering the objectives of the plan. (for example is one option able to deliver better conservation measures than another at comparable costs, or do both options has similar conservation properties with differing costs). There is currently no general methodology to provide a quantitative cost/benefit analysis of control and enforcement, however, if there are important aspects to be considered these should be described qualitatively.

8. CONCLUSIONS TO THE IMPACT ASSESSMENT

8.1. Comparison of Options

• based on agreed criteria and draw-up a short-list of options that satisfy the Commissions Objectives for further discussion (Always include option « No Change»)

• Provide a summary table of options

•Screen possible options to see which can best meet the objectives using the agreed the criteria from the scoping meeting to be used to compare the options.

8.2. Effectiveness: best placed to achieve the objectives (select appropriately just to relate to the objectives given above)

• What would be the short and long term impacts for the stock(s) and fleets and linked economic sectors affected by the different options. Will the tactical objectives of the plan be achieved?

• What would be the short and long term impacts of the multi-annual plan on the environment and the ecosystem, for example by-catch, discards, non-target species?

• Are there any likely side effects that might result from the plan? (for example, changes in behaviour that affect other fisheries, or environmental consequences, changes in the market).

• Has the implementation been affected by external factors such as global change, ecosystems effects, or other fisheries?

8.3. Efficiency: cost-effectiveness

• What will be the impact of this plan in terms of for example employment, gross revenue of the fleet?

• Will there be any effects on the broader industry (processing, transporting, auxiliary)?

• What are the expected economic benefit/loss during the period of implementation?

8.4. Consistency: limiting trade-offs across the economic, social and environmental domains

• Are there important tradeoffs between the three main objectives of the CFP (economic, social and environment) that are importantly different amongst the options.

• Are is there any overriding major imbalances among the three main objectives of sustainable economic, social and environmental aspects.

8.5. Forward look to Evaluation

• Define a set of appropriate indicators to measure implementation, compliance, effectiveness, costs and other impacts.

• Plan for future evaluation or review of the policy initiative (when, by whom, what, how?)

Notes:-

1) Achieving targets (F_{msy})– means with 50% probability of achieving this by specified time

2) Precautionary approach criteria in agreement with ICES criteria (95% SSB>Blim) (95% F<Flim)

ANNEX C DECLARATIONS OF EXPERTS

Declarations of invited experts are published on the STECF web site on https://stecf.jrc.ec.europa.eu/home together with the final report.

APPENDIX I: FRAMEWORK FOR THE EVALUATION OF MANAGEMENT PLANS

A review of the practical implementation of the management plan considering the actions taken and measures implemented at the Member State level.

1. DESIGN ISSUES

• What issues relating to the design of the plan can be identified. eg. differences and/or ambiguity in interpretation of the requirements and/or provisions of the plan, or different levels of implementation of the plan. Analysis should be conducted at the Member State level.

• Has the plan been updated in the light of new information since first implementation e.g. have reference points been updated in line with more recent advice?

• In the case of multi-species plans, are the procedures for setting the TACs for the different species likely to lead to imbalances in the TAC levels for the stocks concerned.

• Has the potential overlap with other management plans been adequately addressed?

2. ENFORCEMENT AND COMPLIANCE

• What level of compliance has been achieved (using the background information provided above - analysis should be conducted at MS and EU level – i.e. MS implementation may differ and have differing outcomes)?

3. ENVIRONMENTAL EFFECTS OF THE PLAN

3.1. Evaluation of the effects of the management plan on the fishery

• What has been the fishery response to the management plan? The response strategies of the fleets include possible shifts to other stocks or species, to other gears or metiers and other behavioural issues.

• What measures of the management plan are considered to have influenced the fishery response. Measures of the management plan will include

• Catch and effort limitations – either through TAC or effort management

• Technical measures – eg. Closed areas, gear restrictions, etc.

• Control and enforcement measures – eg. Entry and exit rules, allocation rights, etc.

• Capacity management measures

3.2. Evaluation of the effects of the management plan on the stock

This section should be adapted to any particular plan and stock. The terms of reference proposed hereafter are drawing on the generic aspects of the evaluation.

a) Evaluating the stock response to the changes in the fisheries resulting from the plan - is the plan delivering its own internal objectives with respect to the stock?

• What changes in the stock dynamics can be identified and to what extent are these consistent with (or attributable to) changes in the fishery imposed by the management plan?

For example can reductions in fishing mortality be identified in instances where fishing effort has been reduced.

b) Evaluating whether the values of target and other reference points referred to in the plan are consistent with current knowledge and the objective of achieving MSY by 2015.

• Are the reference points in the plan still sensible given the latest information on stock status and dynamics?

• Is the plan likely to achieve MSY by 2015? If not, why?

• Is there a need to revise the measures in the plan to make it more effective in achieving the objectives?

• Is STECF able to propose options for a better plan to achieve stock – specific objectives?

3.3. Evaluation of the effects of the management plan on the ecosystem.

• What impacts of the management plan on the ecosystem can be identified? Ecosystem impacts might include changes in discarding practices, by-catch rates, habitat degradation, etc.

4. SOCIAL AND ECONOMIC EFFECTS OF THE PLAN

4.1. Data and Calculation of Indicators

• If there is no explicit socio-economic objective defined by the management plan the evaluation should be against the general socio-economic objectives as stated in the CFP.

• Characterise the social and economic state of the fleets exploiting the stock or stocks concerned using appropriate indicators, i.e. those proposed in the plan these below proposed by STECF in the April 2009 plenary report,.

- *Value of landings* ~ revenue from sale of fish.
- *Gross Cash flow* ~ income minus all operational costs (excluding capital costs).
- *Break even revenue* ~ long term break even revenue. The income (revenue) level at which economic profit is zero.
- *Gross Profit* ~ income minus all costs, including capital costs.
- *Gross Value added* ~ contribution to gross national product (GNP). Income minus all expenses except capital costs and crew cost.
- *Fleet size and composition*
- *Employment*

• The implementation and enforcement costs should be estimated, if possible in order to assess their cost effectiveness e.g do the benefits outweigh the cost of implementation and enforcement.

5. WHAT HAS BEEN THE ADDED VALUE OF THE MANAGEMENT PLAN

The question "What is likely to have happened if the management plan had not been put in place?" should be addressed. This should include a comparison between the current state of the stock and fisheries compared to the situation that is likely to have occurred had the management plan not been implemented. The scenario representing the absence of the plan will constitute the baseline scenario, as advised by the desk officer.

• With specific reference to the items identified in section 2, identify the benefits/losses to the fishery and to the stock that have resulted from the management plan. Analysis to be based on indicators of stock status and exploitation rate

• With specific reference to the items identified in section 3, identify the economic and social benefits/losses that have resulted from the management plan. Analysis to be based on suitable social and economic indicators.

6. PERFORMANCE EVALUATION OF THE PLAN

Based on the above analyses please answer the following questions.

NB: the judgment provided on the following questions could be qualitative (at this stage) where data are not available. Similarly if other effects are detected they can be considered.

Effectiveness

• What have been the immediate results and medium term impacts for the stock addressed by the management plan? Have the objectives of the plan been achieved?

• What have been the immediate results and medium term impacts of the management plan on the environment and the ecosystem, for example by-catch, discards, non-target species?

• Have there been any side effects resulting from the plan? (for example, changes in behaviour that affect other fisheries, or environmental consequences, changes in the market).

• Has the implementation been affected by external factors such as global change, ecosystems effects, or other fisheries?

Utility

• What trends in fleet capacity (kW or GT) would have been expected from the implementation of the plan? What trends were actually observed?

• Are the fleets affected by the management plan in a situation of overcapacity?

• Did the management plan contribute to adapting the fleet capacity to the fishing possibilities resulting from the management plan?

APPENDIX II: IMPACT ASSESSMENT AT EUROPEAN COMMISSION PURPOSE AND KEY THEORETICAL ASPECTS

An impact assessment (IA) is

- a key tool to ensure that Commission initiatives and EU legislation are prepared on the basis of transparent, comprehensive and balanced evidence, and
- an aid to political decision-making, not a substitute for it.

1. CONTENT OF AN IA

The IA is a set of logical steps to be followed when you prepare policy and/or legislative initiatives. It is a process that prepares evidence for political decision-makers on the advantages and disadvantages of various policy options by assessing their potential impacts. The results of this process are summarised and presented in the IA report.

When you carry out an IA, you will have to answer a number of questions (for the key analytical steps see section 5):

- What is the nature and scale of the problem, how is it evolving, and who is most affected by it?
- What are the views of the stakeholders concerned?
- Should the European Union be involved?
- If so, what objectives should it set to address the problem?
- What are the main policy options for reaching these objectives?
- What are the likely economic, social and environmental impacts and the potential (dis)advantages, synergies and trade-offs of those options?
- How do the main options compare in terms of effectiveness, efficiency and coherence in solving the problems?
- How could future monitoring and evaluation be organised?

Conducting IAs is a key aspect of developing Commission initiatives, and the College of Commissioners will take the IA report into account when taking its decisions. The IA is therefore an aid to political decision-making. It supports, but does not replace decision-making, because the adoption of a policy and/or legislative initiative is always a political decision that is made by the College alone.

2. WHY ARE IMPACT ASSESSMENTS IMPORTANT AND WHAT ARE THEIR OBJECTIVES?

All policy decisions should be based on sound analysis supported by the best data available. Therefore the Commission's IA system:

- helps the EU institutions to design better policies and laws;
- facilitates informed decision making throughout the legislative process;
- ensures early coordination within the Commission (see Section 6.5 and 11);
- takes into account input from a wide range of external stakeholders, in line with the Commission's policy of transparency and openness towards other institutions and society (see Section 6.9-13 and 12);
- helps to ensure coherence of Commission policies and consistency with Treaty objectives such as respect for fundamental rights (see Chapter 5.2, 8.3 and Annex 8 of the IA guidelines; the EU Charter of Fundamental Rights and the Communication on Compliance with the Charter of Fundamental Rights in Commission legislative proposals (COM(2005) 172)) and high-level objectives, such as the Lisbon or Sustainable Development (see indicators to monitor the implementation of the EU sustainable development strategy (SEC(2005) 161final)) strategies;
- improves the quality of policy proposals by transparently showing the benefits and costs of different policy options and helping to keep EU intervention as simple and effective as possible;
- helps to ensure that the principles of subsidiarity and proportionality are respected, and to explain why the proposed action is necessary and appropriate (see Chapter 5.2 of the IA guidelines).

3. THE MAIN KEY ANALYTICAL STEPS

3.1. Identifying the problem

- Describe the nature and extent of the problem.
- Identify the key actors/affected populations.
- Establish the drivers and underlying causes.
- Is the problem within the Union's remit to act? Does it pass the necessity and value-added test?
- Develop a clear baseline scenario, including, where necessary, a sensitivity analysis and risk assessment.

3.2. Define the objectives

- Set objectives that correspond to the problem and its root causes.
- Establish objectives at a number of levels, going from general to specific/operational.
- Ensure that the objectives are coherent with existing EU policies and strategies, such as the Lisbon and Sustainable Development Strategies, respect for fundamental rights and the Commission's main priorities and proposals.

3.3. Develop main policy options

- Identify policy options, where appropriate distinguishing between options for content and options for delivery mechanisms (regulatory/non-regulatory approaches).
- Check the proportionality principle.
- Begin to narrow the range by screening for technical and other constraints and measuring against criteria for effectiveness, efficiency and coherence.
- Draw-up a shortlist of potentially valid options for further analysis.

3.4. Analyse the impacts of the options

- Identify (direct and indirect) economic, social and environmental impacts and how they occur (causality).
- Identify who is affected (including those outside the EU) and in what way.
- Assess the impacts against the baseline in qualitative, quantitative and monetary terms. If it is not possible to quantify, explain why.
- Identify and assess the administrative burden/simplification benefits (or provide a justification if this is not done).
- Consider the risks and uncertainties in the policy choices, including obstacles to transposition/compliance.

3.5. Compare the options

- Weigh up the positive and negative impacts of each option on the basis of criteria clearly linked to the objectives.

Where feasible, display aggregated and disaggregated results.

APPENDIX III: DRAFT TERMS OF REFERENCE FOR IMPACT ASSESSMENT

1. BACKGROUND INFORMATION TO BE GIVEN BY DG MARE

- The current management system
- Stocks description
- The fishery and associated fisheries (please identify also MS involved)
- The legislative framework
- Conclusions of the evaluation (if appropriate)
- Objectives of the management framework
- Data available

2. PROPOSED SCENARIOS

At least three scenarios will be proposed by the Commission

3. TERMS OF REFERENCE

3.1. Objectives

The process aims at assessing social and economic, fishery and environmental impacts of the various scenarios for a future multiannual plan.

The impact assessment will answer the following questions:

What are the likely economic, social and environmental impacts and the potential (dis)advantages, synergies and trade-offs of those options?

How do the main options compare in terms of effectiveness, efficiency and coherence in solving the problems?

How could future monitoring and evaluation be organised?

Are the objectives proposed appropriate at ensuring sustainable management (2015 MSY objective – 2020 for the good environmental status of marine ecosystems)

3.2. Identification and collection of the necessary data

(1) Data used for and conclusions of the evaluation will form the basis for the impact assessment. In particular the social and economic situation observed at the end of the evaluation period will define the baseline situation for the impact assessment process.

(2) Review of the structure and performance of the fleet segments (flatfish) affected by the measures.

(a) Review the economic, catch and effort data available of the fleets involved in the fishery to carry out the impact analysis. In particular, special attention needs to be given to the economic variables and aggregation levels of data needed for the bio-economic modelling and analysis. (Please take into account remarks made during evaluation process, if it has taken place)

(b) Analysis of compatibility between the fleet segments used by the biologists and economists. Explain the way any discrepancy has been dealt with.

(3) Selection of a suitable modelling approach given the current economic data availability for the fleets involved.

(4) Collection of any other data that will be needed for the completion of the impact assessment work and review the literature.

3.3. Analysis of scenario

To define the baseline situation: the baseline situation is the social and economic situation observed at the end of the evaluation period, it should be defined during the evaluation process.
If not, define the economic and social baseline situation for the fishing fleets, onshore industries and communities that depend on the fishery concerned and of associated fisheries (e.g. size, turnover, costs, profits, employment in 2004-07) for each Member State and fishery affected.
Data shall primarily be sourced from the Data Collection Framework, although additional information should be sourced where necessary.

Assess at least 3 scenarios of multi-annual management (including a status quo scenario). Given expected stock recoveries under the long term proposal, for each Member State, the analysis shall look into what economic, social, fishery and environmental impacts can be expected in the short, medium and long run.
An appropriate bio-economic model shall be chosen, in agreement with the Commission.

Identify potential positive and negative, economic and social spillover effects on the other fisheries sectors (processing, marketing) or other capture fisheries.

Identify any needs for long term data collection from the fisheries affected in support of future impact assessments or for monitoring purposes.

APPENDIX IV: DRAFT REQUEST TO ICES ROCKALL HADDOCK

Background

The Council and the Commission consider that it would be appropriate to set the TAC for haddock in zone VIa and EC waters of Vb according to the same rule as applies concerning the stock of haddock in the North Sea, while adapting the precautionary spawning biomass and the limit spawning biomass as appropriate for this stock.

Detailed Request

ICES is requested to evaluate the consequences of applying the following harvest rule for the management of haddock in zones VIa and EC waters of Vb:

1. For 2010 and subsequent years the TAC will be set consistent with a fishing mortality rate of no more than 0.3 for appropriate age-groups, when the SSB in the end of the year in which the TAC is applied is estimated to be above 30,000 tonnes (B_{pa}).

2. Where the rule in paragraph 1 would lead to a TAC which deviates by more than 15 % from the TAC of the preceding year, the TAC will be set that is no more than 15 % greater or 15 % less than the TAC of the preceding year.

3. Where the SSB referred to in paragraph 1 is estimated to be below B_{pa} but above 22,000 tonnes (B_{lim}) the TAC shall not exceed a level which will result in a fishing mortality rate equal to $0.3-0.2*(B_{pa}-SSB)/(B_{pa}-B_{lim})$. This consideration overrides paragraph 2.

4. Where the SSB referred to in paragraph 2 is estimated to be below B_{lim} the TAC shall be set at a level corresponding to a total fishing mortality rate of no more than 0.1. This consideration overrides paragraph 2.

5. In the event that STECF advises that changes are required to the precautionary reference points B_{pa} (30,000t) or B_{lim}, (22,000t) paragraphs 1-4 shall be reviewed.

The evaluation should address:

- the consequences of implementing the above rule instead of implementing ICES' current advice for this stock according to the precautionary approach;

- the extent to which the application of this rule would deliver management in conformity with the precautionary approach;

- the extent to which the application of this rule would deliver maximum sustainable yield from the stock;

- where possible, stochastic future time-streams of TACs and fishing effort necessary to catch those TACs should be made available to STECF for economic analysis. ICES is invited to liaise with STECF on this issue.

ICES is also invited to propose alternative rules or modified rules on its own initiative or in consultation with RACs and to evaluate these. Such alternative rules should lead to either or both higher or more stable catches and lower biological risks.

Draft Request to STECF

Impact assessments concerning haddock VIa, Vb(EC) and Rockall haddock

Background

ICES has been requested to prepare a biological assessment of long-term plan options concerning haddock in zone VIa and EC waters of Vb. It is also expected that a similar request will be agreed by NEAFC in respect of haddock at Rockall.

STECF is requested to assess economic consequences of implementing the various options advised by ICES compared to continuing to fish under current arrangements. STECF is particularly invited to liaise with ICES on the compatibility of evaluation systems.

This evaluation should apply to stocks of haddock in the North Sea, in zones VIa and EC waters of Vb, and at Rockall.

Detailed Request

Based on ICES biological assessments and stochastic future time-streams of TACs and fishing effort, STECF is requested to evaluate probable future trends in :

- catches and the value of those catches;
- fishing effort, in terms of vessel numbers, activity and kWh deployed, and the costs (both fixed and variable) of deploying such effort;
- employment associated with this activity
- net revenue from the resource
- if possible, additional incidental impacts on populations of other marine organisms.

Such trends should be contrasted with the probable consequences of continuing to fish the stock according to rates of fishing mortality as recently experienced, or according to ICES advice according to the precautionary approach.

A 20-year time frame should be used for the evaluations.

APPENDIX V: DRAFT REQUEST TO STECF IMPACT ASSESSMENTS CONCERNING BAY OF BISCAY SOLE

Impact Assessment on the proposal for a new Council Regulation on the fixing of long-term targets concerning the sole in the Bay of Biscay and amending Council Regulation (EC) No 388/2006[1].

Background

Council Regulation (EC) No 388/2006 of 23 February 2006 establishing a multiannual plan for the sustainable exploitation of the stock of sole in the Bay of Biscay requires that new biological targets be fixed once the stock has recovered to its precautionary biomass level. Based on scientific and economic advice the Commission will propose new targets after considering various alternatives and their economic, environmental and social impacts.

ICES estimates that the stock of Bay of Biscay sole has reached safe biological limits (stock above B_{PA} = 13,000 and exploited below F_{PA} = 0.42), which was the first objective of the plan. The next step is to decide a long-term fishing mortality rate for the stock and a rate of reduction in the fishing mortality rate until this target is reached.

STECF Study Group met in November 2009 to review the plan. Their conclusions can be found in a preliminary report (SGMOS 09-02)[2], which will be formally adopted in April this year. Any changes made to the report then, will be taken into account by the Commission services in preparation of the impact assessment for the new proposal for the Bay of Biscay sole.

STECF Study Group concluded that F_{max} (0.24) would be a feasible long-term fishing mortality target for the stock.

STECF is now requested to carry out an impact assessment to assess biological, social and economic consequences of implementing the various possible options described below, compared to continuing to fish under current arrangements.

Detailed Request

STECF is requested to look at the possible options, as follows:

1. Option 1 – no change to the existing plan; continue fishing under current arrangements;
2. Option 2 – moving from step 1 of the current plan on to step 2 and setting a long-term fishing mortality target (F_{msy}), while maintaining current capacity ceiling and adapting control according to the new Control Regulation;
3. Option 3 – more thorough revision of the plan; setting a long-term fishing mortality target (F_{msy}), while updating capacity ceiling if necessary and revising a control part.

[1] http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2006:065:0001:0001:EN:PDF
[2] Report of the STECF Study Group on Evaluation of Fishery Multi-annual Plans (SGMOS 09-02)

For options 2 and 3, a reduction of target F in steps of 10% in order to reach a target fishing mortality of F_{msy} (0.24) by 2015, according to preliminary recommendations of the STECF study group (SGMOS 09-02), should be examined.

4. Option 4 – introducing a fixed TAC strategy in order to achieve F_{msy} by 2015. This option implies setting a TAC for the stock at a level of 4,200 tonnes.

Options 2, 3 and 4 could only apply when the SSB stays equal or above 13,000 (B_{PA}).

In case of data poor conditions (no scientific assessment available for the stock) or in case the stock of Bay of Biscay sole falls outside safe biological limits (once the SSB is below 13,000 (B_{PA})), a recovery phase may need to be re-introduced.

STECF is therefore asked to evaluate Option 5 – introducing a harvest control rule (HCR) which implies an accelerated reduction of F to 0.06.

Additional information

Based on ICES biological assessments and stochastic future time-streams of TACs and fishing effort, STECF is requested to evaluate short and long-term impacts (environmental, biological (stocks), economic and social) of each option, such as:

- Future trends;
- Possible side effects (environmental, biological (stocks), economic and social);
- Trends in fleet capacity;
- Cost-effectiveness (eg. employment, gross revenue of the fleet);
- Social and economic benefit/loss during the period of implementation.

Such impacts should be contrasted with the probable consequences of continuing to fish the stock according to current arrangements as per management plan in place (Option 1).

STECF is furthermore invited to identify the most accurate indicators of progress (environmental, biological, economic, social) for this multiannual plan.

A 20-year time frame should be used for the evaluations.

APPENDIX VI: DRAFT REQUEST TO ICES: CELTIC SEA HERRING

Background

The Council and the Commission consider that it would be appropriate to set the TAC for herring in the Celtic Sea (Zones VIIhjk) according to the rule advised by ICES. However, it is necessary to evaluate the consequences of applying this rule instead of current arrangements, and to consider the possibility of applicable alternatives.

Detailed Request

ICES is requested to evaluate the consequences of applying the following harvest rule for the management of herring in the Celtic Sea (Zones VIIhjk):

6. For 2010 and subsequent years the TAC will be set consistent with a fishing mortality rate of $F_{0.1} = 0.19$.

7. If, in the opinion of ICES and STECF the catch should be reduced to the lowest possible level, the TAC for the following year will be reduced by 25%

The evaluation should address:

- the consequences of implementing the above rule instead of implementing ICES' current advice for this stock according to the precautionary approach;

- the extent to which the application of this rule would deliver management in conformity with the precautionary approach;

- the extent to which the application of this rule would deliver maximum sustainable yield from the stock;

- where possible, stochastic future time-streams of TACs and fishing effort necessary to catch those TACs should be made available to STECF for economic analysis. ICES is invited to liaise with STECF on this issue.

The effect of national fisheries management arrangements put in place by Ireland should be should be taken into account.

ICES is also invited to propose alternative rules or modified rules on its own initiative or in consultation with RACs and to evaluate these. Such alternative rules should lead to either or both higher or more stable catches and lower biological risks.

Draft Request to STECF

Impact assessments concerning Celtic Sea herring

Background

ICES has been requested to prepare a biological assessment of long-term plan options concerning Celtic Sea herring.

STECF is requested to assess economic consequences of implementing the various options advised by ICES compared to continuing to fish under current arrangements. STECF is particularly invited to liaise with ICES on the compatibility of evaluation systems. Account should be taken of national fisheries management arrangements put in place by Ireland.

Detailed Request

Based on ICES biological assessments and stochastic future time-streams of TACs and fishing effort, STECF is requested to evaluate probable future trends in :

- catches and the value of those catches;
- fishing effort, in terms of vessel numbers, activity and kWh deployed, and the costs (both fixed and variable) of deploying such effort;
- employment associated with this activity
- net revenue from the resource
- if possible, additional incidental impacts on populations of other marine organisms.

Such trends should be contrasted with the probable consequences of continuing to fish the stock according to rates of fishing mortality as recently experienced, or according to ICES advice according to the precautionary approach.

A 20-year time frame should be used for the evaluations.

APPENDIX VII: WESTERN WATERS ACCESS REGIME

The STECF is asked to advise to what extent the template for impact assessment ToR could be useful for management measures which are not stock-related, such as the Western Waters regime. Options for developing the regime will probably be presented to the working group SG-MOS 2010. In addition, a call for tender for an accompanying economic study, which could be based in the economic data call 2010, was launched in December 2009.

Background

The Commission is undertaking a regular review of the Western Waters regime. The present Western Waters access regime is in force since 2004 and is based on Regulations (EC) No 1954/2003 on the management of fishing effort relating to certain community fishing areas and resources, and Council Regulation (EC) No 1415/2004 fixing the maximum annual fishing effort for certain fishing areas and fisheries. The Commission's aim is to present to the Council and European Parliament a report on the regime's utility, functioning and effectiveness. This report is supposed to include also an impact assessment of future options for the development of the regime, accompanying a legislative proposal which is supposed to be tabled in late 2010.

The objective of the Western Waters access regime is to avoid an increase in fishing effort compared to levels observed prior to the introduction of the regime (1998-2002). It distinguishes overall effort directed towards demersal stocks, and effort on some benthic fisheries. The final fishing effort ceilings were fixed in 2004 by allocating maximum amounts of annual kW-days per Member State per area and target assemblage.[3]

A separate constraint on maximum effort levels within a special conservation zone, the Biological Sensitive Area. Or so-called new "Irish Box", is designed to accompany the restrictions on the use of demersal gears in that area, in view of the area's importance as a spawning and nursery ground, in particular for hake.

Western Waters fisheries as defined by Regulations 1954/2003 and 1415/2004 are currently practiced by fleets from: Belgium, Denmark, Germany, Spain, France, Ireland, the Netherlands, Portugal and the United Kingdom.

Evaluation process

The Commission so far consulted both STECF and ICES in the revision process. The Commission asked STECF in 2009 to evaluate i.a. the following matters:

- fishing effort per year by demersal gears, fishing effort directed towards scallops, edible crab and spider crab per year, and fishing effort in the Biological Sensitive Area.
- the precision of the definition of the WW effort management.
- The pertinence of regulating fishing effort on edible crab in terms of kW-days.

The STECF WG on effort is expected to deliver its evaluation report in February 2010.

ICES was requested to:

[3] Council Regulation (EC) No 1415/2004 of 19 July 2004 fixing the maximum annual fishing effort for certain fishing areas and fisheries.

- Describe the spawning and nursery grounds of commercially important species in the area of the Irish Box, and in particular hake.
- Assess weather the spawning and nursery grounds, in particular hake, coincide with the boundaries of the Irish Box
- Assess the Irish Box effort constraint in the context of other conservation measures adopted in the area, in particular in the gear restrictions laid down in Regulation 494/2002.
- Provide an overall appreciation of the usefulness of the Irish Box.

ICES response delivered in December 2009 stated that there are important spawning and nursery areas in the so called Irish Box, but that it is not possible to draw conclusions on the usefulness of the BSA. The current effort control regime appears not to be limiting fishing effort for most countries. ICES considers desirable to maintain the BSA, because removal of such a system may result in changes in fishing patterns. Given the complex area of the BSA an improved VMS based effort reporting system is recommended. The increased mesh size within the BSA may have benefited to the hake and megrim stock both of which have significant nursery and area overlap with the area of increased mesh size.

For better knowing the economic aspect involved in the Western Waters regime, the Commission has called for tender offers for a study analysing the performance of the most important fleets operating in the Western Waters.

Possible policy options

The Commission is preparing the launch of a consultation to Member States and RACs in spring 2010 when policy options for a new direction of the WW regime will be presented.

While those possible policy options are still under development, the following draft outline can be given :

Fixing new reference levels: The reference level for maximum allowable fishing effort in the 2004 Regulation was fixed by group of species, area and fishery, and the level was equal to the average annual fishing effort exerted over a period of 5 years (1998 - 2002). The fixing of new reference levels could follow basically two different approaches:

1) Adapting the reference levels to recently deployed effort, e.g. the yearly average during the latest three years.

2) Adapting the reference levels to recently deployed effort like under 1), but limiting the reduction amount so that all Member States result in having an equal reduction amount per area and fishery.

Revising the areas: The areas to which the effort regime applies could be reviewed so that they are better linked to the fishing grounds of key species. For instance, area VIIfg could be separated in order to allow a special regime linked to the high cod abundance in this area.

Revising the tool: For scallops and edible crabs, a limitation expressed in kW-days may be replaced by a limitation better related to the drivers of fishing pressure, in particular to the gear used.

Revising the dynamic: For the dynamic of the regime, two options are considered:

1) Maintaining the static nature, which consists in fixing the annual maximum effort and not touching it until the subsequent review of the regime.

2) Relating the effort allocation to a scientific evaluation process. At certain intervals, scientific bodies could be asked to give an assessment of the stock development of the (main) stocks exploited by the fisheries subject to the regional effort restrictions, and advise on appropriate effort adjustments. Such an approach would imply amending the objective of the regime from limiting the effort deployed at recent levels to adapting the effort to a (multi-) species scientific advice.

European Commission

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Abstract

Initially presentations on biological and bio/economic modelling were made to give the technical background to aspects of modelling implied by an Impact Assessment. Experience with stakeholder involvement in the development of Multi-Annual Plans was also discussed. The meeting then developed a report framework to deliver the Commission's requirement. This report structure was designed to complement the Framework for Evaluations previously developed and extended under SG-MOS 090-02 in Lisbon in November.

To test the suitability of the Framework and to determine how to carry out the necessary supporting work four requests, on Celtic Sea herring, Bay of Biscay sole, Haddock to the west of Scotland and Western Waters Access Regime, were briefly examined for scope and approach. Based on the experience gained from these and the general experience of other plans a generic timetable and Terms of Reference were developed.

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The Scientific, Technical and Economic Committee for Fisheries (STECF) has been established by the European Commission. The STECF is being consulted at regular intervals on matters pertaining to the conservation and management of living aquatic resources, including biological, economic, environmental, social and technical considerations.

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